

# AMERICAN VETERINARY REVIEW,

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## EDITORIAL.

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CASTRATION OF RIDGLINGS.—With this first number of our seventeenth volume we have begun the publication of the translation of a small pamphlet on the castration of cryptorchids, from the pen of Prof. F. Mauri, of the veterinary school of Toulouse. The subject is one which possesses, we think, sufficient interest to justify the labor of translation and reprinting, and will well repay the time bestowed on its study.

In the first or introductory part, the attention of the reader is called to a sufficiently complete and comprehensive history of the operation on the European continent; and it is to be regretted that a similar history of the operation for our own continent cannot as yet be written, and is waiting for the accumulation of materials before it can be undertaken. If "Farmer Miles" is, as we believe him to be, the father of this operation on this continent, his method and his wonderful success ought to be fully recorded in our veterinary journals for the instruction and enlightenment of our rapidly growing army of young veterinarians.

In his introduction, Professor Mauri does more than to merely write this history. It also contains hints of immense value to the professors of surgery in our various colleges. The

method he has adopted for insuring to his students the benefit of what we may be allowed to call his own education in the *modus operandi* of the operation, by demonstrating the parts to his class and requiring them to operate on artificially prepared, and afterward on true cases, is thoroughly judicious and practical. Is not this, indeed, the only proper way to teach operative surgery in every case, and has it been adopted in any of our colleges?

We fear that the answer to the latter query must be in the negative, but the sooner such a mode of education is adopted the better. The day should be considered as passed, not to return, for young veterinary graduates to receive their diplomas from their alma mater without having ever performed the simplest operations, or witnessed any of the difficult ones.

TUBERCULINE—MALLEINE — PNEUMO-BACILLINE. — One of the strongest of the reasons urged in favor of the most thorough requisition and improvement of the faculties of observation and discrimination in diagnosis on the part of the veterinarian is the fact that our patients are mute animals unable to define their sufferings by words, and that their examination is therefore sometimes very difficult, and for that reason a correct diagnosis of their ailments must in many instances become a most uncertain and unsatisfying proceeding.

While this is true of many of the internal diseases, it is emphatically so in respect to certain forms of contagious disease in which the apparent lesions are so slight that the general organism does not seem to be affected by their presence; and again, when they are so peculiarly situated as to elude identification, and to exist only as matters of suspicion or surmise. With what satisfaction then, must the veterinarian recognize the value and take advantage of the means which of late years have been brought to his attention, and that of the medical world, by such discoveries as those of Koch, Hellman, Kohing, Prusse and others, who have introduced the means of detecting phthisis, with its smallest lesions, by the use of tuberculine, and latent glanders with malleine.

It is true that the use of these agents is still in a tentative stage, and is a matter of investigation. They must be sub-

jected to much further close observation; but, nevertheless, the numerous reports published in veterinary periodicals all over the world seem already sufficient to have established beyond doubt their positive value, and to show that the day has certainly arrived when errors of diagnosis in these two diseases should be considered things of the past.

In the February issue of the *Journal of Zootechnie*, published in Lyons, there is a paper from the pen of the great investigator, Director S. Arloing, which brings us the good news of the discovery of a new preparation in pneumo-bacilline, by which, judging from results already obtained, the diagnosis of incipient contagious pleuro-pneumonia may be rendered as positive as that of either of the diseases already mentioned.

The new product, to which Director Arloing gives the name of *pneumo-bacilline*, is said to have been already subjected to experiment, and to have exhibited detective and revealing properties which, by the evidence of special reactions, promises to be of great advantage to the embarrassed investigator. The article of Director Arloing, of course, treats only of the discovery and its results in the light of present developments, but it promises additional information when fresh observations shall have been followed by more knowledge. Those who best know by actual practical experience how the true location of a small peri-pneumonic spot may be determined will be the first to understand and appreciate the value of the discovery of the properties of pneumo-bacilline, and most carefully watch for reports of further results.

It would certainly be an interesting fact if it should so occur that the disagreement which exists between certain American and English veterinarians as to the exact nature of certain pulmonary lesions, and whether they are of a true pleuro-pneumonic type, should be decided by this discovery of Arloing.

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## ORIGINAL ARTICLES.

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### CASTRATION OF CRYPTORCHIDS.

BY PROFESSOR F. MAURI, of the Veterinary School of Toulouse, France.

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#### INTRODUCTION.

Cryptorchidism in horses, as an abnormal condition, becomes a serious matter by reason of the great depreciation in money value of the animals which are affected with it. It is accompanied with an ugly disposition, which at times renders their temper uncontrollable, and becomes the cause of great difficulties and serious dangers for those who have them in charge. Excited by the presence of other animals of their own species, either male or female, the ridgling becomes nervous and noisy, rears and kicks, resists control, makes violent attacks upon other animals, and exposes himself by his excitement to numerous accidents. Unable to satisfy his sexual desire, he often vents his rage upon his driver, who cannot always protect himself, attacking him with foot and tooth, and ordinarily in the most treacherous manner. At times it is sufficient for his keeper to have merely touched other horses or mares before approaching him, to excite him suddenly into a copulative rage. He snorts fiercely, jerking himself, and whinnying with the peculiar and characteristic tone of the animal under sexual desire, bends his neck convulsively, strikes out with his fore feet, and often, unless he be held firmly and shortly in hand, rushes furiously upon his keeper. It is true that sometimes he can be kept under control by excessive work and low diet, but he is always to be held under suspicion, and his intermittent and sudden outbreaks of aggressive temper are always to be feared after the enjoyment of a few days of rest or liberal feeding. Horses in the south of France are peculiarly dangerous on account of their force and energy, and the quickness and suddenness of their movements. Hence their comparatively low value, and the difficulty met with in disposing of them by sale. The fact of the testicular ectopia depreciates a horse by an aver-

age of three-quarters of his proper value. I once knew two cryptorchids, three and four years old respectively, which could not be disposed of at three and four hundred francs, but when castrated were sold, one for twelve, and the other for thirteen hundred and fifty francs.

It thus appears that in the business of raising horses, aside from other causes, so uncertain in pecuniary results, this incident is to be included as a source of doubt and fluctuation, and is to be charged with no small share of the losses always accompanying industrial ventures; and still the remedy for this state of affairs is in the hands of all veterinarians, and it is to be regretted that it has not yet entered into general practice. Indeed, castration of cryptorchids seems to have been systematically ignored by even the most expert surgeons and those most favorably situated for making it familiar to all. Even H. Bouley ignores it entirely in his article on castration in the *Dictionnaire Pratique de Medecine et de Chirurgie Veterinaire*.

Gourdon in his *Traite de la Castration*, published in 1860, treats extensively of the historic aspects of cryptorchidy, of the growth and migration of the testicle in the normal state of the foetus, of the external characters of ridglings, of the causes of this abnormality, and the inconvenience attached to it; but when he reaches the question of operation he says: "Before proceeding to the castration of a ridgling, the essential point is to be sure that it is practicable. Indeed, it is plain that the extirpation of the testicle, which has not come down to its normal position, is not always equally possible, whatever may be the position it occupies, and evidently all operations must be contra-indicated when the organ has remained entirely in the abdominal cavity."

M. Van Haelst was the first to show the inconvenience of an operation in such circumstances, saying that "the securing of the testicle in such a case cannot be obtained without an excessive dilatation of the ring, which would necessarily be followed by an inguinal hernia which would be irreducible."

Goubaux is also of the same opinion, adding, in support

of his theory, that "on account of the absence of a vaginal sac one would be obliged, after dilating the inguinal canal, to make an opening in the peritoneum in order to reach the gland, a step which offers almost insurmountable difficulties, besides the danger which is always present in cases of traumatism of the peritoneum. The operation, however, becomes easier when the testicle is engaged in the ring, and the difficulties are still lessened as the gland drops down more and more in the inguinal tract, and is therefore more easily reached by the operator.

"In any case, one must be sure beforehand by rectal exploration of the position of the testicle. The operation may be attempted, even if not to be completed, if the testicle is too deeply situated to permit its being removed without danger to the life of the patient. But if the organ is found to be engaged partly or entirely in the ring, castration may be attempted, as it always offers some chances of success."

As shown, Gourdon positively declares that "inguinal cryptorchidy alone may be performed usefully and with a chance of success, while abdominal cryptorchidy constitutes a case of *noti me tangere*. Castration in this case is an operation of so hazardous a character that one may well be excused for declining to recommend it."

Serres, in his *Guide Hygienique et Chirurgical de la Castration*, has a special chapter on cryptorchidy, which he studies from the point of view of anatomy and physiology. As to the surgical side of the question, he agrees with Gourdon. He says, "It is not to be doubted that cryptorchids may be rendered useful by castration, but is this operation practicable in all cases and all species?" "No; for solipeds, when the testicle has not passed the superior opening of the canal, rightly answer Van Haelst and Goubaux." The indication to ignore the operation is, with the first author, when it is necessary to enlarge the ring. The second author adds, "especially when, on account of the absence of the vaginal sac in the inguinal tract, it becomes necessary for the incision to reach the testicle. It is then only as an experimental means that castration can be attempted."

Serres affirms, however, according to Hering, that "Danish veterinarians do not hesitate to dilate the ring sufficiently to introduce the hand and pass it through the peritoneum; to feel for the testicle and bring it outward, and to apply a clamp or a ligature upon the cord." He also relates successful cases occurring in Belgium, but nevertheless concludes: "These are not sufficient to authorize us to undertake or to advise an operation which may be considered as very dangerous." And, besides, I have never seen the operation performed at the veterinary clinic of Toulouse by Lafosse or Serres.

In 1887, Messrs. Peuch and Toussaint in their *Precis de Chirurgie Veterinaire*, like the preceding author, make a complete study of cryptorchidy. In the surgical part they merely allude to the various modes of operation described and practiced by M. Degive. Nothing in this chapter indicates that they have themselves ever performed the operation. Still, the castration of cryptorchids has been practiced for many years in Belgium, Holland, Denmark, Germany and else, where, not only by veterinarians, but by empyrics. I may specially mention the names of Van Seymortier, Van Haelst-Dieriex, Degive, Nielsen, Ostertag, Smidt and others, who since 1845 have successively published most interesting papers on the subject.

Marrel reports a case in France in 1838, and in 1847 two others, but gives no precise description either of the position of the testicle or of his *modus operandi*. Serres in his *Guide Hygienique Chirurgical de la Castration* reports that in 1840 a gelder operated successfully by an incision through the supero-posterior part of the left flank in a case which he had himself declined to undertake. But these two practitioners have had no imitators.

Director Degive deserves special mention for the manner in which he has endeavored to popularize the operation in Belgium and in France. Shortly after his nomination to the clinic of the veterinary school of Brussels, he formed a connection with Dieriex, who for years had successfully castrated ridglings. In 1864, this practitioner published a paper in which he minutely described its *modus operandi* and the re-

sults obtained. M. Degive, who followed his teachings, soon put them in practice, and in 1875 published an excellent paper in which he minutely described his method. In 1887, after numerous observations, he introduced a new *modus operandi*, to which he now gives preference, and in 1886 he gave a public demonstration of the operation before a large number of veterinarians and physicians. In 1889, on the occasion of the International Veterinary Congress, he castrated two animals in order to demonstrate the operation before French veterinarians.

At the Saumur Cavalry School the operation is now admitted in general practice, thanks to the initiative of M. Capon, who in 1878 found among the horses sent there a collection of subjects of all breeds affected with the various forms of cryptorchidy, upon which no operation had been tried. Many of these animals were disposed of because of their wild disposition, and ten of the others were subjected to the operation, of which three became post-mortem subjects, one from lesions of peritonitis, one from hernia and one from lockjaw.

Yet notwithstanding this, the castration of ridglings has not been accepted in civil practice, and this must not be considered very surprising, for it is not ordinarily practiced in the veterinary schools, and as a consequence young graduates do not dare to undertake it, considering it to be too delicate and serious an operation for beginners, while the older practitioner refrains from fear of its results upon his reputation—and who can be blamed? It is in this condition of the question that I have recently undertaken the task of supplying a neglected part of our surgical teaching.

In an operation of this kind, one or a few theoretical demonstrations are not sufficient for the thorough initiation of the students, with a rational hope that at a later period they will venture upon an undertaking involving such hazard in even the most expert hands. It will be necessary for them to see the operation performed by their teacher, and also to perform for themselves an imitation or rehearsal of the necessary surgical steps on animals reserved for surgical experiments, following it with a regular post-mortem, showing the

errors committed and the means of avoiding them. It is with this view that I have undertaken the introduction of this branch of instruction among my students.

The first ridgling was operated on in 1891 at one of our clinics, and we were soon furnished with plenty of subjects, and in one year we had operated upon twelve without a single fatal result. This is sufficiently encouraging. These twelve included seven unilateral abdominal, three on the right and four on the left side; and five inguinal, one double and three simple, one on the left and two on the right. The case of double cryptorchidy was treated in two operations three months apart.

On the occasion of the first operation I showed the students the very simple preparation of the subject. A specimen, dissected for that purpose, exhibited the anatomy of the inguinal region so far as to include the parts interesting to the surgeon and involved in the operation, and on its conclusion the students were allowed to watch the result. Each of the subjects presented some peculiarities of its own, and this gave me good opportunities for subsequent clinical demonstrations.

I feel it to be my duty to publish my observations, and I do so with the hope that they may prove to be of benefit to my colleagues. A true knowledge of the actual dangers attending this act of surgical interference, and of the ways of avoiding them, should give confidence to timid practitioners, and stimulate and encourage them in undertaking one of the most brilliant and useful operations of veterinary surgery.

*(To be continued).*

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## SO-CALLED SPINAL MENINGITIS.

BY G. C. FAVILLE, D.V.M., Baltimore, Md.

(A paper read before the Maryland State Veterinary Medical Association.)

The case which I shall report this evening, proved to be of so much interest to me, that its interest must be my excuse for presenting it.

On November 19th, Dr. Barron received a call to see a bay horse six years old. The doctor being busy at the time,

requested me to take the case in hand. We found the horse down in a large box-stall, unable to rise, and presenting symptoms which upon a cursory examination were those of azoturia. In order to sling the horse, it was necessary to move him from the stall where he was to another box-stall, which was accomplished by "main strength and awkwardness." We finally succeeded in raising the animal, and after continued friction over the posterior extremities for half an hour, he could in part support himself upon them. The use of the fore limbs was at all times apparently perfect. After the horse was raised, we found the following symptoms presented: temperature 102° F.; pulse full and soft; respiration somewhat accelerated, but not more than would naturally result from the excitement of slinging; almost complete loss of motion in the posterior extremities with no tenderness over the region of the loins; rectum filled with somewhat hardened balls which were naturally evacuated within an hour from the time the animal was raised. We directed that the animal be left alone as much as possible, and prescribed, tr. hyoscyamus 3 ss. every three hours.

In the afternoon I saw the animal again. His temperature had risen to 103°, and there seemed to be a rather more excited condition than in the morning. He would be standing in a perfectly listless manner and suddenly would start as if frightened. This was immediately followed by a return to the lethargic condition. I then prescribed bromide of soda in connection with tincture of belladonna every three hours giving:

R Soda bromide, 3iij,

Tr. bellad. rad., 3 ss.

M.

Sig.—At one dose.

The next morning the nervous condition was very greatly improved. During the night of November 22d, the horse was attacked by a severe rigor accompanied by extremely cold extremities. The first chill occurred about midnight. Whiskey in three ounce doses, as required, soon brought a reaction, which was followed by another chill. This was controlled in the same way.

Upon my next visit I found the patient with a temperature of  $105\frac{2}{3}^{\circ}$  F.; respiration accelerated; pulse quickened and wiry. A highly hyperæmic condition of all the visible mucous membranes was exhibited, and a distressing mucous "rale" in all the upper air passages accompanied by a soft cough was observed. The glands in the pharyngeal region were swollen and tender.

We prescribed tr. bellad. 3ss. every two hours, to be alternated with quiniæ sulph. 3ss. and Brown's Mixture  $\frac{3}{j}$  every two hours. A good mustard blister was applied over the throat and extra blankets ordered.

November 23d there seemed to be but little change except that there was a slight discharge from the nose, and that the fecal balls were covered with a glairy mucus, in some cases amounting to almost an enveloping membrane. The appetite, which had been almost completely gone, was now fairly good, and the temperature  $102\frac{2}{3}^{\circ}$ .

There was evident inability to urinate, although there was a continual dribbling of urine from the penis, which was partially protruded. I passed the catheter and found the bladder filled with rather thick, slightly acid urine, in which I could detect no albumen. Continued the treatment last mentioned to November 26th, when I stopped the quiniæ and began the use of nux vomica in fifteen minim doses of the tincture.

On the 27th of November there seemed to be no perceptible change in the condition of the animal, except the entire absence of the throat complications first noticed. When, however, we passed the catheter, we found the bladder distended with urine of a very strong ammoniac odor, thick and ropy in character, and we also found a large quantity of blood, and blood clots which clogged the catheter. There seemed to be an extensive exfoliation of the mucous membrane of the bladder; at times large patches would adhere to the catheter or be sucked into it, completely clogging it. For several days the treatment consisted in thoroughly washing the bladder with carbolized water, and the administration of fifteen minim doses of tincture nux

vomica, alternating with 3 ss. doses of fl. ext. ergot every two hours. This continued from November 27 to December 10, when the bleeding had ceased, and the bladder was evidently not so painful as it had been. At this time the horse was able to pass his urine without the aid of the catheter, and was able to move about his stall, still in the slings, with a considerable degree of certainty in his movements.

On December 12 I removed the sling and walked him out of the stall. Naturally there was considerable weakness in his movements, but I allowed him to lie down, and he was with very little assistance able to get up.

A peculiarity of his gait is a halting drag of the toe in his hind foot in bringing it forward. This appears as if from weakness, but I am inclined to think that it is a peculiarity of the diseased condition.

This evidently was not azoturia, but was the same condition as existed in a number of cases that we had in the city about a year ago, and which was diagnosed as "so-called spinal meningitis." A large proportion of those attacked last year are reported to have died. This case is the most severe one that has come under my notice that has lived. The animal was a very valuable one, and received most excellent nursing, which naturally aided materially in his recovery.

In the *Journal of Comparative Medicine and Veterinary Archives*, for August, 1892, Dr. Clement records the clinical history of some similar cases as furnished by Dr. Dougherty. While there are some variations in the symptoms manifested as described there and in this case, they are no greater than I have seen in such cases. This horse was kept in a stable where numerous other horses are kept, and all fed and cared for in practically the same way, but no other such cases as this occurred. Dr. Clement, in his report, seems to incline to the opinion that this is the same as Dieckerhoff's "corn-cockle disease." It may be that it is, but the mere fact that we failed to find corn-cockle in either feed or bedding does not prove anything; and besides the same poisonous substances may develop in other plants. Is it not possible that

this is one of the multitudinous forms of so-called influenza?

Now a word as to treatment. Without attempting to make a differential diagnosis, we followed the plan advocated by our homeopathic friends of treating symptoms as they develop, without caring what name the disease producing them has. I desire to particularly call your attention to the use of bromide of soda in these cases. It has been my fortune to treat several cases of this kind, and I have found that in those in which I used the bromide of soda, I had no trouble in controlling those extremely nervous conditions which seem peculiar to this disease. In no other cases have I seen such hemorrhage from the bladder as in the case under consideration, and the action of ergot in controlling this was satisfactory, since its beneficial results were seen after the first dose.

Its action, however, seemed to be fully as much that of a general tonic as any other. In all those cases I have seen, I have noticed that there is great difficulty in securing control of the posterior extremities. For some weeks, and often months, the animal will drag his toes and seem to be unable to control his movements. Nerve tonics like strychnia and arsenic seem to have but little effect, even if their administration is long continued. In three cases that came under my observation, it was nearly a year before complete recovery took place. In such cases there is almost sure to be an atrophy of the muscles in the region of the flank, which is often lasting.

It has been my desire to bring this subject before the Society in such a way that we may discuss it with profit to all. A comparison of observations is the best possible means of acquiring knowledge. Theory and practice should always go hand-in-hand, but theories should always be based upon practical observations. Theoretically, we should begin treatment by removing the cause of the diseased conditions; practically, we are more often compelled to treat the varying symptoms as they develop with less regard to causation than we like perhaps to acknowledge. The case under consideration illustrates this point.

## DISINFECTANTS IN VETERINARY PRACTICE.

By W. B. NILES, D.V.M.

(Read before the Iowa State Veterinary Medical Association.)

I call your attention to this class of drugs, not because they are not generally used by veterinarians, but because through some fault in their application good results do not in many cases follow their use.

Disinfectants are especially indicated in two classes of cases, viz.: 1st, in operative surgery for the disinfection of instruments, hands of operator, and parts to be operated on; and 2d, in the treatment of suppurating wounds. In regard to the first, it may be said that while it is not as easy for us as it is for the M.D. to perform an aseptic operation, we can in many instances do so. To operate, however, in this way the utmost care is necessary. While we know that suppuration does not depend alone upon the presence of pus microbes in the tissues, we also know that this process will not occur without they are present. To exclude them we must disinfect our instruments, hands, and in fact everything which comes in contact with the wound, as well as the skin covering the seat of operation.

For the disinfection of instruments, nothing is better than a few minutes boiling in water, to which has been added a little carbonate of soda, to prevent rusting. Lister, the father of antiseptic surgery, still adheres to the use of carbolic acid, and disinfects his instruments by placing them in a twenty per cent. solution of the acid. The hands of the operator can be prepared according to the method of Dr. Welch, of the Johns-Hopkins University, *i.e.*, by washing in a saturated solution of per-manganate of potash, then decolorizing in an oxalic acid solution, and lastly washing in a bi-chloride solution 1 to 1,000; or, in place of the bi-chloride solution, carbolic acid or lysol can be employed. A thorough scrubbing with soap and water should precede the per-manganate wash, particular attention being paid to the space beneath the nails. The skin covering the seat of operation should be

scrubbed with soap and water, the hair shaved or clipped close, and then washed and kept wet for at least ten or fifteen minutes, with a good disinfecting solution. For this purpose a two per cent. carbolic solution, a two per cent. lysol solution, or a bi-chloride solution can be used—I prefer the two first to the latter. Experiments made in my laboratory by two of our graduating students, have demonstrated that a two per cent. solution of either lysol or carbolic acid, will destroy the *staphylococcus pyogenes aureus* within five minutes, while recent experiments made elsewhere show that corrosive sublimate has been much overrated as a disinfectant.

During the operation I would not advise keeping the exposed tissues wet with strong disinfecting solutions, but would remove the blood by wiping gently with a piece of antiseptic gauze. We know that all chemical disinfectants interfere with the vitality of the tissues, and thus retard the healing process. Two things should be borne in mind, viz.: to introduce as few pus microbes into the wound as possible, and to preserve as nearly as is possible the normal condition of the tissues operated upon.

As was indicated at the beginning of this paper, I believe the reason why so few wounds heal by first intention, is because sufficient care has not been taken to prevent the entrance into the wound of pus organism. The methods of disinfection are not thorough enough. The instruments are merely placed in a solution of carbolic acid, containing many times less than one per cent. of the acid, the hands are simply washed or wet for a few seconds in the same kind of a solution, and the seat of operation disinfected in much the same way. Then because suppuration follows we lose faith in disinfectants, and say that suppuration is bound to follow all operations. When experiments in the laboratory show that it requires from five to ten minutes contact of the disinfectant with the germ under the most favorable conditions, how can we expect to disinfect our hands, or the seat of operation, in a less time where the conditions are not nearly as favorable?

A mistake some make is that of contaminating the wound, after disinfection has been thorough, by using unclean sponges,

or allowing their instruments to come in contact with objects which are not sterile, for example, wiping the scalpel on a dirty cloth during the operation.

You may ask if it is practicable and advisable to attempt to carry out asepsis in our operations. I would answer it is both practicable and advisable in many cases, but not in all. Many operations can be performed and the wounds made to heal by primary union, if we are sufficiently careful. In many instances incised wounds accidentally inflicted can be made to heal in the same way. Even if some pus does form, in many instances we have prevented worse complications by our aseptic methods. For example by disinfecting our instruments and hands, we may have eliminated septicæmia, pyemia and erysipelas, as possible sequelæ.

In the treatment of the second class of cases mentioned, disinfectants play an important role, *i.e.*, in the treatment of suppurating wounds. Here the disinfectant is applied in solution, or in the form of a powder. We wash the wound with a disinfecting solution for the purpose of destroying the pus organism, and thus lessen the suppurating process. The length of time which a wound should be irrigated with such a solution depends upon circumstances. The mistake is often made of not "washing" long enough. Merely keeping the surface wet long enough to remove accumulated pus, in many cases, does little good. I accomplish much in the way of disinfection. The wound should be irrigated at least ten minutes, and preferably longer. I have several times irrigated unhealthy looking wounds for several hours with the best of results. As a solution for this class of wounds, I can recommend very highly the per-manganate of potash solutions—it is effectual and cheap. Irrigating with the bi-chloride solution has not in my hands given as good results. It combines with the albumen on the surface of the wound, which retards its disinfecting action, and also destroys a thin layer of tissue on the surface, which is unfavorable to rapid cicatrization.

Carbolic acid or lysol can also be used. Pyoktanin, one part to three hundred of water, is an effectual disinfectant, and as it does not produce superficial necrosis, can be used to

advantage in the disinfection of wounds. It is somewhat objectionable, however, as it stains everything with which it comes in contact. I will digress slightly here, to say that the non-irritating properties of this drug render it a valuable eye medicine for certain cases. We have used it at the hospital in cases of suppurative ophthalmia with good results. For those who desire to give this drug a trial, I will say that experiments which I have made show that a 1 to 200 solution is equal to a two per cent. solution of crystalline carbolic acid.

The treatment of wounds by the application of a powder is an excellent way to treat many suppurating wounds. You are all aware that many wounds must be treated, which cannot be bandaged, and that some wounds which can be bandaged, will do better without. What powder shall we apply to such cases? To determine the action of some preparations in this way, I have made several experiments in the laboratory, besides the use of different agents, on cases under observation. In my opinion, a powder dusted over the surface of a suppurating wound should serve two purposes: it should prevent, or at least retard, the growth of organisms, and combine with the secretions to form an artificial scab. To make the conditions somewhat similar to those existing when we apply powder to a wound, I dusted the powder over surface inoculations made on agar agar with the pus organism, *staphylococcus pyogenes aureus*, and placed them in the incubator; I used iodoform (common and resublimed), iodoform and calomel mixed, pyoktanin, iodol, salycilic acid, boracic acid and aristol all in the form of powder, iodoform (both preparations) iodoform and calomel, pyoktanin, boracic acid, salycilic acid, prevented all growth; but iodol and aristol did not apparently retard growth in the least.

In applying to wounds, I have noticed that powders not soluble in the wound secretions remain much longer on the surface, preparations being washed away; consequently iodoform remains longer on the surface than most of the others. We conclude that iodoform is entitled to the high place which it occupies as a dry dressing for wounds, but that as a dry

dressings for wounds left unbandaged, it is improved by the addition of calomel, which makes a very firm, hard scab.

My treatment for most suppurating wounds is to irrigate thoroughly once daily, until the suppurative process is partially controlled, with one of the solutions previously mentioned, and follow each with an application of iodoform and calomel; the irrigation to cease entirely as soon as a scab can be induced to form over the surface. The powder should be applied two or three times daily when it can be conveniently done. This treatment has in my hands given the most excellent results.

To sum up, we may say that disinfectants are a valuable class of agents in veterinary practice; that their use is varied, but especially indicated in operative surgery, in the preparation for operations and the treatment of wounds; that the benefit derived from their use depends largely upon the skill of the surgeon using them. With the increase of knowledge regarding diseases and their causes, the field for the use of antiseptics and disinfectants will also increase, and as their action and the proper way of application become better understood, better results will be more often obtained by their use.

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## REPORTS OF CASES.

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*"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."*—VETERINARY RECORD.

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### THE USE OF ACETANILID AND DIGITALIS COMBINED IN SPECIFIC FEVERS.

BY PROF. ROSCOE R. BELL, D.V.S., Brooklyn, N. Y.

The subject of antipyretic medicines must of necessity be an inexhaustible one to active veterinary practitioners. Many febrile diseases of specific origin occurring in the soliped are characterized by such an extreme degree of pyrexia, as to be almost the sole indirect cause of dissolution;

its presence is such an alarming symptom to the physician, and so materially jeopardizes the capacity of his patient's organism to withstand the complications or lesions that may ensue, that he searches diligently for a drug that will lower the abnormal amount of animal heat that is being generated, without lowering any vital function. Within the memory of most existing practitioners there have been introduced to the medical and veterinary professions many new antipyretic medicines, such as antipyrin, antifebrin, antikanmia, etc., but I believe it is becoming popular now to decry these preparations, by ascribing to them mysterious deleterious influences upon the heart. I have recently had such good experience with one of this group, that it can do no harm to make a plain recital of the action of acetanilid in two cases from which I have just emerged with a great deal of satisfaction, especially as they follow immediately in the wake of two other cases with a fatal termination, which were treated by what we like to call our "good old reliable treatment," quinine and whiskey.

The disease specifically we will term influenza, though that designation really conveys to the mind nothing. We have a number of fevers of a typhoid nature grouped under this heading which are as different as though they possessed no symptoms in common. What we commonly designate pink-eye is a febrile disease having local lesions in the conjunctiva, and lids of the eye, along with swelling of the extremities. Influenza will include this class of disease, and yet the specific fever of which I now speak has none of these lesions nor symptoms; neither is it accompanied by catarrhal conditions of the air passages, but expends itself at first in extreme hyperpyrexia, and whatever lesions may subsequently make their appearance are depended upon, and not occurring as an accompaniment of fever. After a careful study of this disease I have found more resemblance between it and that disease occurring in the human patient euphaneously termed "La Grippe," than exists between it and any other affection to which horses are subject; the same cyretic state, the muscular weakness, and the expenditure of the attack upon the heart.

But I simply started out to narrate my experience with certain of the agents which are used to reduce and control these fevers. I said that I had just emerged from two fatal cases, which I had treated with quinine and stimulants, and I will qualify that by saying that those cases began with temperatures of  $107^{\circ}$ , that quinine was administered in two drachm doses every four hours, and this was reinforced by two and three ounce doses of alcohol between the doses of quinine. Later, as debility succeeded, nutrients, (such as milk and egg, oatmeal gruel, hay tea, etc.,) were freely administered; and when the heart began to show an enfeebled and threatening character, digitalis and counter irritation were resorted to and persevered with. Not only were my own resources exhausted, but two other veterinarians were consulted at various times during the disease, and, despite all our efforts, both animals died after a sickness of about ten days each, during the whole of which the thermometer kept up a register of between  $105$  and  $107$ . They were very valuable road horses, and their loss was much regretted. Scarcely had the contractor removed their bodies, when two new cases, presenting the same characteristic symptoms were presented to me for treatment. One of these was the off horse of a peculiarly marked team, whom it would be next to impossible to replace, and valued very highly; the other a pacer with the capacity to go a mile close to :20. With my past experience I naturally assumed control of these two cases with many misgivings, and with a determination to reduce the temperature, and keep it down if possible. A learned friend, whose name would be recognized by every reader of the REVIEW, should I write it, cautioned me against the too free use of acetanilid, and good naturedly advised me to stick to "quinine and whiskey," and "whiskey and quinine." To distinguish the two horses, I will call the carriage horse No. 1, and the pacer No. 2. They both began with a temperature of  $106\frac{1}{2}$ , and I administered to each 100 grains of quinine at 10 A.M.; at 1 P.M. No. 1 had risen to  $107$ , pulse 66, respiration 22; at 7 P.M.  $107\frac{1}{2}$ . I now decided that I should place No. 1 under acetanilid and digitalis (the latter to over-

come any real or fancied heart depression), and consequently I administered at this hour two drachms of acetanilid and half a drachm of digitalis. As a test, I kept No. 2 under 80 grain doses of quinine every four hours, and two ounces of alcohol every two hours; and resolved to keep No. 1 under acetanilid and digitalis according to indications for its use. Throughout No. 1 received three ounces of alcohol every four hours. The following is a correct register of the temperature, pulse and respiration rates of the carriage horse (No. 1) during the attack, with side notes of the date of each antipyretic dose of the acetanilid:

## MONDAY.

	Temperature.	Pulse.	Respiration.	Medicine.
10 a.m.	106 $\frac{1}{2}$	60	24	100 gr. quinine,
1 p.m.	107	66	22	
7 p.m.	107 $\frac{1}{8}$	65	23	Acet. 3 ij, Dig. 3 ss.
9 p.m.	105	58	22	
11 p.m.	104 $\frac{3}{8}$	56	23	" "

## TUESDAY.

9 a.m.	105 $\frac{1}{8}$	60	20	" "
2 p.m.	102 $\frac{3}{8}$	50	26	

[I here thought the temperature was sufficiently low, and withheld the medicine.]

7 $\frac{1}{2}$ p.m.	106	60	20	Acet. 3 ij, Dig. 3 ss.
11:30 p.m.	104 $\frac{3}{8}$	56	28	
3 a.m.	103 $\frac{1}{4}$	56	27	" "

## WEDNESDAY.

8 a.m.	104 $\frac{1}{8}$	50	20	" "
2 p.m.	104	54	30	
5 p.m.	103 $\frac{1}{2}$	50	27	

[Patient appeared so well that I again left off the antipyretic, and never gave another dose of it, keeping simply to the alcoholic stimulant.]

11 p.m.	105	54	23	
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## THURSDAY.

8 a.m.	105 $\frac{2}{8}$	58	26	
2 p.m.	105	58	30	
6 p.m.	105	57	32	

FRIDAY.				
	Temperature.	Pulse.	Respiration.	Medicine.
8 a.m.	104 $\frac{4}{5}$	56	34	
7 p.m.	104 $\frac{3}{5}$	54	40	
SATURDAY.				
8 a.m.	103 $\frac{1}{2}$	50	36	
8 p.m.	103 $\frac{1}{5}$	50	32	
SUNDAY.				
10 a.m.	101 $\frac{4}{5}$	46	30	
8 p.m.	100 $\frac{1}{2}$	44	28	
MONDAY.				
9 a.m.	100 $\frac{1}{2}$	44	28	

The horse is now fast convalescing, and all functions are normal. Pneumonia of a slight degree developed on Wednesday, and received the additional treatment of a Berns Fomentation Jacket. A feature of some importance was that when the fever rose, depression was marked, the appetite lost, and when the mercury descended, his ears rose, eyes were brighter, appetite better, and every indication present that he felt relief. The table above will show the effects of the antipyretic upon the pulse rate, and I will remark that I never detected the absence of a single beat, nor was it irregular or jerky at anytime; but was especially strong and steady during the lower ratings of the thermometer.

In the case of No. 2, whom I had determined to treat with quinine, his temperature gradually ascended, his strength waned, and his appetite disappeared, until it was evident that a different form of treatment must be adopted if his life was to be saved. Consequently, at nine o'clock on Wednesday, quinine was discontinued, and he was placed under the same doses of acetanilid and digitalis that No. 1 was receiving, with the result that the temperature was lowered, his pulse became steadier and stronger, and his appetite and spirits showed a decided improvement. This statement cannot be credited to the fact that his disease was nearing its termination, because on Friday, when I sought to discontinue the antipyretic, the fever gradually returned until it reached 106°, when the drug was again administered, the patient at this time relapsing into a state of lassitude and indisposition to

eat, with a pulse mounting from 50 to 62. The doses of acetanilid were now given every six hours, until Saturday at 9 A.M., at which hour he received his last dose, when his temperature was  $102\frac{1}{5}^{\circ}$ . At 7 P.M. of that day it had risen to  $104^{\circ}$ , but never passed this mark, afterwards gradually descending until on Tuesday it had become normal. At the time of greatest depression in the fever, under the use of the drug, when it had dropped from  $106\frac{2}{5}^{\circ}$  to  $103\frac{1}{5}^{\circ}$  in a few hours, the pulse was remarkably full, steady and strong, more nearly approaching the normal pulse in feel and rhythm than I had ever seen it after the same number of days of extreme pyrexia. At this point I had a fellow practitioner give me his opinion of the pulse, and he unqualifiedly pronounced judgment in about the same terms as I have expressed it. Below will be found a careful table of the functions throughout the attack, or until convalescence was well under way:

MONDAY.				80 grains of quinine every four hours.
Temperature.	Pulse.	Respiration.		
10 a.m.	105 $\frac{4}{5}$	54	23	
9 p.m.	106	55	24	
TUESDAY.				
11 a.m.	105 $\frac{4}{5}$	54	24	
10 p.m.	105 $\frac{2}{5}$	52	22	
WEDNESDAY.				
8 a.m.	105	56	24	
10:45 a.m.	105 $\frac{1}{5}$	54	22	
2 p.m.	105 $\frac{4}{5}$	55	23	
3 p.m.	106 $\frac{2}{5}$	56	25	
5 p.m.	107 $\frac{1}{5}$	57	26	
9 p.m.	106 $\frac{2}{5}$	56	26	
THURSDAY.				2 drachms acetanilid and half a drachm of digitalis every six hours.
8 a.m.	103 $\frac{1}{5}$	50	26	
10:30 a.m.	103 $\frac{4}{5}$	50	24	
3 p.m.	104	50	24	
5 p.m.	103 $\frac{4}{5}$	50	26	
FRIDAY.				
8 a.m.	103 $\frac{1}{5}$	46	28	

FRIDAY— <i>continued</i> .				Medicine.
	Temperature.	Pulse.	Respiration.	
11 a.m.	103 $\frac{3}{5}$	50	25	Received nothing but stimulants.
6 p.m.	105 $\frac{2}{5}$	56	28	
7 p.m.	106	62	32	
9:30 p.m.	104 $\frac{2}{5}$	54	34	
SATURDAY.				Acetanilid and digitalis every six hours.
2 a.m.	104 $\frac{2}{5}$	52	33	
6 a.m.	103 $\frac{1}{5}$	52	32	
9 a.m.	102 $\frac{1}{5}$	46	32	
4 p.m.	103 $\frac{2}{5}$	46	28	
7 p.m.	104	48	28	
11 p.m.	103	48	28	Nothing but stimulants.
SUNDAY.				
9 a.m.	102 $\frac{4}{5}$	50	26	
4:30 p.m.	103	47	40	
MONDAY.				Nothing but stimulants.
8 a.m.	102	44	30	
8 p.m.	102 $\frac{1}{2}$	44	36	
TUESDAY.				Nothing but stimulants.
9 a.m.	101	44	32	
WEDNESDAY.				Nothing but stimulants.
10 a.m.	100 $\frac{1}{2}$	44	28	

From the above two cases, I am convinced that this drug, at least in combination with digitalis, does not possess a deleterious action upon the heart or the digestive organs in this class of cases; and I shall continue to use it with confidence, and will keep a careful record of its workings in my hands, and will be obliged to other physicians if they will give the results of a systematic use of it in their practice to the readers of the REVIEW, to the end of discovering whether we really possess a harmless and powerful antipyretic, and therefore a most valuable drug, or whether, as many claim, a dangerous heart depressant that works more evil to the system than the increased combustion of tissue could do.

## SUCESSFUL OPERATION FOR VENTRAL HERNIA.

BY JOHN T. UNERTT, D.V.S., Milwaukee, Wis.

The case I wish to report was that of a three-year-old brown mare, standard bred, property of Mr.——, druggist. Animal had hernia for one and a half years, and during that time was treated by seven veterinarians. On being called I advised, and a few days later performed the following operation:

Hernia was in the left side, a little above the stifle joint, the rend in the abdomen being about three and one-half inches. It could be easily reduced by manipulation.

Animal was prepared in usual way for casting, hair was clipped over the rupture and for some space around it, then washed with a solution hydrarg chlor., and instruments sterilized in a solution of carbolic acid. As the stifle covered the seat of operation after animal was cast, it was necessary to straighten the leg and secure it in position. A four per cent. solution cocaine was injected at various points, an incision about six inches long made through the skin, and dissected back somewhat. On examination it was found necessary to scarify the edges of the muscles, which were then brought together with silk sutures. "The catgut I intended to use proved to be of inferior quality," the ends of which were left long and brought through the opening of the skin, which was stitched with interrupted sutures with drainage below. Iodoform and pulv. acid borici was introduced once daily with an insufflator, thus keeping the wound thoroughly aseptic. A pad saturated with a solution carbolic acid was placed over the wound and kept in position by a many-tail bandage, *tightly* applied around the abdomen. Animal was kept standing, and fed on crushed oats with no hay stall.

After two weeks I found the muscles had united, so a curved probe-pointed bistoury was introduced and sutures severed and removed, the bandage and pad being continued for two weeks more, and in six weeks the animal made a nice recovery.

I would state that in my opinion the bandage around the

abdomen *tightly* applied, as *well* as operating under thorough antiseptic rules, is absolutely necessary for a successful operation. I will not hesitate to perform the same operation again as soon as the opportunity presents itself.

#### PUNCTURED RECTUM—RECOVERY.

BY C. BURDEN, D.V.S.

On December 3, 1892, at 5 P.M., I was called by the F. F. Co. to see a bay gelding, eight years old, weighing about 1,500 lbs. I found him breathing rapidly, pulse 70, almost imperceptible, membranes blanched, continually shifting his position. The history of the case was as follows: he and his mate were attached to a large truck and were driven through the street not far from the curb, when a grocery wagon tried to pass but struck against the hub of the front wheel, and that caused the shaft to strike this horse; they at once took him out of harness and sent him home, though they could not see that he was injured; this was at 1 P.M.

When I saw him, in addition to the symptoms already described, I found a slight swelling of the inferior part of the anus, also traces of blood; the driver said the shaft might have entered the rectum, but he did not know.

I therefore thought it best to make a rectal examination. I at first explored the superior and lateral parts but could find no lesion; I then pressed my fingers along the inferior surface, and about eight inches from the anus I found a puncture, large enough to put my fingers through; I took them out and put them through a second time, to be sure my diagnosis was correct.

I at once reported the case to the owners. My prognosis was that he would die from hemorrhagic shock within twenty-four hours.

4th. Still alive, anxious countenance, pulse about the same, temperature 100°, refuses all food, breathing more labored.

5th. Pulse a little stronger, otherwise about the same; laid down several times through the day.

6th. Peritonitis set in through the night; temperature 103; pulse 75, wiry; respiration rapid, patches of perspiration over the body, tongue dry, constant pain, up and down, pawing continually, occasionally takes a swallow of water.

7th. Symptoms aggravated, pain more intense; from this time on until the 12th inst. there was little change; up or down he pawed continually, but to-day he is more easy; took a few mouthfuls of mash, also a little water; temperature 101°, pulse 55.

13th. Stands up two or three hours at once, when down lies quiet; at my first examination, I took a few small dung balls from him, but he has passed no fæces since, I therefore put my hand into the rectum, and beyond the puncture I found a large amount of hardened fæces which I carefully removed; the next day he defecated freely, appetite is improving, but the animal is covered with abrasions, and lost more flesh in the same length of time than I ever saw before.

From that time recovery was rapid; he is now at work as well as ever, though not in as good flesh.

The only treatment I resorted to was hypodermic injection of morphine, and spraying the rectum daily.

#### A TEDIOUS CASE OF GRANULAR DERMATITIS—GOOD RESULTS FROM PEPSIN WHEN OTHER TREATMENT FAILED.

By ALBERT SHELDON, D.S.V., House Surgeon to the A.V. Hospital.

On July 25, 1892, there was admitted to the hospital a chestnut gelding with a large ulcer on the near hip. The history of the case was that for some time past the horse had a great desire to rub himself, and had so irritated the part that on the point of the hip a surface as large as a man's hand was entirely raw, looked angry and unhealthy.

We dressed the wound with a solution of creolin, after removing all sloughing skin, cauterized it lightly with silver nitrate, and replaced the light blanket, first putting an oakum pad over the wound. It progressed very well and was closing nicely, when on August 13th the horse broke his

halter and bit the wound severely, putting it quite back to where we started. We then tied the animal securely in a large box stall, discontinued the blanket and oakum pad, and used a tonic powder of zinc oxide, fuller's earth and carbolic acid. It granulated slowly for a few weeks, and then assumed a very indolent character.

On October 31st we practiced skin grafting, placing thirty-six little islands of skin on the ulcer, and keeping the parts sprayed with salt solution several times a day.

We placed the animal in slings for support and to prevent his rubbing the wound again. The grafts remained firm for four days, when about half of them came off. Gradually they all loosened and came away, but the wound looked in better condition.

We then used a collodion dressing, beginning on December 27th. The wound made good progress with this treatment until January 13th, when the horse broke the slings during the night and lacerated the wound in an ugly manner.

We were pretty thoroughly disgusted, as can well be imagined, but having gone thus far, we decided to see it through. We replaced the slings and kept him in them all the time except about thirty minutes a day, when he was taken out to be exercised. We next tried quinine sulphate and got a very rosy, healthy wound with it, but at the end of a week it did not improve as well as under collodion, so we returned to that treatment.

One day, when in conversation with Prof. Roscoe Bell, of Brooklyn, we mentioned our case, spoke of how many drugs we had tried, and how discouraging treatment seemed to be. He said that he had obtained good results with pepsin and suggested that we try it.

Beginning the pepsin treatment on January 29th, we could see improvement in three days, and a week later the wound was cicatrizing nicely. It continued to granulate rapidly and steadily until March 10th, when it was perfectly healed and covered by solid cicatricial tissue.

## EXTRACTS FROM GERMAN PAPERS.

BY RICHARD MIDDLETON, D.V.S., Philadelphia, Pa.

## MATURITY OF THE CALF FOR SLAUGHTERING PURPOSES.

Redner emphasized the great importance attached to the question of maturity in the calf, and the difficulty of formulating any specific rule respecting the age at which the same should be slaughtered. The views upon this point are multitudinous, and indicate the several opinions of the oldest inhabitants of each locality.

This same subject received consideration in the Mosaic laws. We read in Moses, Bk. II, Chapter xxii, a command which in substance states that the calf must remain seven days by its mother, and on the eighth day it is eatable. As a criterion of the requisite age, the law given furthermore says the umbilical cord must be dry and cicatrized and the claws hard.

The Talmud, of a more ancient origin, contains similar directions. The Romans also passed a well-defined code of rules upon the consumption of young animals. Pliny relates in Book V, chapter xxix, and in Book VIII, chapter xlix, that the matured calf, and one eligible for offspring, must have passed its thirtieth day of existence. Sheep must be at least six days old.

Young animals are considered unclean in Greece and Italy.

From the year 1582 there has existed in Kuopfalz a law which prescribes three weeks as a reliable age at which to slaughter, or when the calf reaches a weight of twenty-four pounds.

Not much dependence may be placed upon the age at this time as evidenced by the teeth. According to Gerlach (*Fleischkost*, Seite 154), the calf is born with six incisor teeth, and at the expiration of the first five days it acquires the corner incisors; the gums must lie smooth upon the teeth until the tenth day, when the crown becomes well exposed. Prac-

tical observers, however, assert that the latter is already visible with the seventh day of age.

For the more accurate judgment of the youth and fitness of the animal, the condition of the umbilical cord furnishes the most reliable factor; on the third or fourth day this dries, and commonly falls from the abdomen between the eighth and twelfth days.

An umbilicus concealed by a scab is healed in four weeks: diseased conditions of the cord modify the course of perfect cicatrization.

The morphological character of the hoof is of like significance; the cushion upon the sole of the extremities, with which the animal enters the world, has left no vestige at the seventh or eighth day.

The development of other portions of the organism, muscular and fatty tissue, follows naturally the course of feeding pursued, and depends thereon for its rapidity. Under normal circumstances these tissues will have so far proceeded in their advancement that by the tenth day the subject may be designated as fit for consumption.

In animals of tender age the myology is pale, moist and adhesive, not to say clammy; the adipose tissue possesses an oily glance similar to that of the embryo; this sort of veal is capable of rapidly developing the bacterium terms of decaying. This attribute of the flesh disappears with every day of age and abundant nourishment until the eighth day.

Now the proper interspersation of fatty material has rendered the muscle fibers distinct from each other, and gives the whole a more compact consistency. This perfected is capable of becoming more pronounced, but Schmidt-Muhlheim maintains that the quality ceases to improve after the fourth week, and further adds, that from this time on the surplus sebaceous material accumulates beneath the skin, upon the kidneys and in the mesentery.

In this district minimum live weight was primarily eighty, then seventy, then sixty pounds. The retrogression of the lawful weight is due to the fact that in other neighboring districts the prescribed weight was but fifty pounds, which

made calves of so great weight too scarce to supply the popular demand for veal.

Computation of the avordupois is evidently not difficult, but its utility is questionable. What, may be asked, has the excellency of the meat in common with the quantity of the same?

Obviously, from the law of transmission, the weight of the offspring depends upon the race and general conformation of the parent stock, and varies from twenty to one hundred and twenty pounds at birth.

If the injurious character of the immature meat cannot be proven, the fact that the milk of the mother, when used previous to the eighth day after parturition, is prejudicial to the health, may be adduced in support of the theory. That this lacteal secretion acts as an irritant to the digestive tract has been abundantly substantiated.

Were we to conclude the discussion by stating the flesh to be mature in the period of time above given, we should then also consider the numerous difficulties lying in the path of the administration of such a law as would reach this point.

Dairymen possessing cows for the milk they yield, are of the opinion that they can obtain more for the fluid as such, than when the young is permitted to drain it from the mam-mæ and incorporate it in their frames; for this reason they endeavor to realize upon the calves at the earliest possible moment. Only the most imperative coercion could compel the owner to feed his veal a milk diet. Albert Iserlohn reports the abattoir rules of his district to be as follows: "For the preservation of the public health, it is urgent that the age of the calf be noted. Animals under fourteen days old must not be brought to slaughter." He observes that a good indication of the age is the umbilicus. The calf whose navel is not perfectly cicatrized may not be used for human consumption.

Koch stated that in Mecklenburg and Holstein only the heaviest and fattened calves are brought to the slaughter-houses; it may have been otherwise in Reuter's time. He says the coloration of the kidneys and consistency of the adi-

pose tissue surrounding the superrenal capsules may be taken as a criterion of the age. As the calf advances in life, the dark red and clouded color of the latter tissue bleaches and disappears. Vilmar-Lennep relates a code which prohibits in Schwarzburg-Rudolstadt the killing when under ten days old. This ordinance he finds to serve the additional purpose of a safeguard in that it gives infectious diseases incidental to calves an opportunity to develop.

At the close of the debate the meeting expressed its thoughts in the following resolution:

"The veterinary inspectors of abattoirs present are of the opinion that, generally speaking, eight days are sufficient to bring the calf into a condition suitable for slaughter, except when some have suffered from deficient nourishment or debilitating disease."—*Thier. Woch.*

#### BRADYCARDIA IN CANIDÆ.

Bradycardia—abnormal retardation of cardiac activity and pulse number—occurs not infrequently in encephalic affections—immobility, and may be explained by an increase of the local blood pressure influencing the vagus center. Bradycardia may also originate from toxic materials and in icterus. The same symptoms may also appear as an idiopathic affection, as was the case of a dog housed in the Berlin veterinary hospital.

This instance was a bull-dog nine years old having but twenty contractions of the pulse per minute. Heart tones and beats not observable; temperature 99.8° F.; animal well nourished but without appetite; visible mucous membranes anæmic; respiration 44; general dullness and great weakness possessed the patient; death occurred some two days after admittance.

Autopsy exposed enlargement of the aorta above the semilunar valves approaching a dollar in size, and which was in a state of chronic inflammation; other pathological observations were absent. Frohner finds only two cases recorded in literature. One in the *Zeitschr. f. Vet. Kunde*, 1890, described

by Nordheim, that of a horse having a pulse of fourteen per minute became unconscious several times during the day. Enlargement of the auricular-ventricular opening was the only lesion found post-mortem.

A similar case was observed by Vogel, and is elaborated in Hering's "Repertor." of 1888; the horse had but one heart tone and a pulse of 15 to 19, likewise suffering from fainting spells. Hypertrophy of the left auricle and ventricle were discovered after death.—*Mtsh. f. prakt. Thierheilk.*

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#### TRANSMISSION OF MALADIE DU COIT IN CANIDÆ.

As is known, this affection is indigenous to the equine species, and after a course of several months of emaciations and paralytic symptoms leads to a fatal termination.

The autopsy upon these animals shows invariable localities of softening in the spinal cord. By inoculating the latter substance, the disease may be transmitted from one horse to another.

Nocard was successful in producing the malady in dogs through injections of the same softening herds into the anterior chamber of the eye. These animals succumbed in from six to eleven weeks, the train of symptoms being precisely as in the horse. This same investigator found the contagion to be conservable in neutral gelatine.—*Thier. Woch.*

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#### BACTERIOLOGICAL STUDY OF BUTTER.

Adopting the Lafar method of examination it is to be seen that the bacteria of butter are in no wise identical with those of milk. The residuary milk secured from the centrifugal separator is extraordinarily rich in its microbic constituents. Since the butter cannot be sterilized as milk may be, it sequentially is to be premised that the former must needs contain numerous animate bacteria. Lafar finds the experiment to be variable, and their results to depend upon extraneous circumstances incidental to the commercial manipulation of the article.

For his purpose of experimentation the author took fresh natural butter in pieces weighing 2 to 5 grains, and placed it with 100 grammes of sterilized water in small dishes; he then heated the latter to 100°-104° F. By continuous agitation a fine emulsion was secured with which he inoculated prepared soils.

This procedure yielded from 10 to 20 million germinating centers to every grainure of butter. In a similar manner Lafar investigated cheese; he found 850,000 centers in the Emmen-thaler (a better class of Swiss cheese), and 560,000 in cottage cheese.

By the butter tests two species of more prominent bacteria were brought to light. First, an immobile, irregular and gelatinous bacterium—bacterium butyri colloideum. Second, a fluorescent bacillum—bacillus butyri fluorescens. Besides those, a fungus, and the bacillus of Hueppe—bacillus acidi lactici; occasionally also that of Escher—bacterium acrogenes lactum. In no case did the mould fungus develop in the samples of butter.

Subjecting to a cold of 16° F., the germinating centers increased 15 per cent. in fourteen days, but later diminished one third, which at a temperature of 32° to 34° F. continued steady for four weeks.

At the ordinary room temperature the centers propagated until the butter became rancid, and then diminished.

A heat of 95° F. for four days diminished the colonies one half, and in thirty-four days to 5 per cent. of the initiative number.

The addition of cooking salt likewise decreased the bacterial contents; by the addition of more salt the latter were not proportionally lessened.

The trials of the butter respecting the disseminating power, etc., in vessels exhausted and practically devoid of atmosphere, yielded positive results after thirty-seven days, anærobic bacteria being present.

Churned butter, i. e., butter containing pigment substance, salt, etc., gave only 747,000 bacteria to the gramme of butter—only one fifth of the natural butter. This substance—churned

butter—also evidencing the mould fungus—*mucor mucedo*, and another immobile bacteria.

A series of later experiments developed the fact that a winter's cold of 16° F. for fourteen days and the addition of a 13 per cent. sodium chloride solution, were unable to influence the germinating colonies.—*Allgem. Med. Central Zeits.*

#### CULTURES OF ACTINOMYCOSIS.

M. Wolf and Dr. J. Israel were successful in obtaining an artificial colony of this micro-organism, and in transplanting the same upon animals.

The cultures grow well upon agar, under the usual precautions, and manifest a decided disposition to nodule formation; the latter appearing on the third or fifth day.

The collections flourish best in a temperature of 95° to 98° F. the growth being independent of the presence of oxygen—being, therefore, an anærobic organism.

The actinomyces fungus under the microscope is of various size and form; short and long single lengths and articulated or compound threads being in the field of vision; there may also be detected a spiral formation and numerous cocci.

The characteristic and notable form of this fungus, to wit, that of an Indian club, *does not appear in the cultures.*

The number of experiments upon animals amounted, in all, to twenty-two; 18 rabbits, 3 guinea pigs and one sheep. The two former species gave positive results, but the inoculation upon the sheep failed.

Upon post mortem the infected animals exhibited the characteristic new formation which in turn yielded the typical club-shaped bodies, single and radiating. These, when placed upon various soils gave the results above mentioned, losing their shape incidentally.

Previous to this success of Wolf and Israel, it was not possible to cultivate the actinomyces fungus.—*Virchow's Archiv.*

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## COLLEGE COMMENCEMENTS.

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### KANSAS CITY VETERINARY COLLEGE.

The second annual commencement of this institution was held in the lecture room of the college on the 17th of March, and the following gentlemen graduated:

Messrs Onesimus G. Atherton, William G. Hawkey, Joseph Pott and Charles Saunders.

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### NEW YORK COLLEGE VETERINARY SURGEONS.

At Chickering Hall the closing exercises took place, and the following gentlemen received their degree of V.S. (Veterinary Surgeon):

Henry Amling, Jr., Long Island, N. Y.; Ira K. Atherton, Arrowsmith, Ill.; William Cook, New York City, N. Y.; Charles Doerrie, Salisbury, Mo.; William T. Finn, Brooklyn, N. Y.; Herbert B. Hamilton, Boston, Mass.; Robert C. Helmer, Scranton, Pa.; Alexander Johnson, N. Y.; Robert E. Jones, New York City, N. Y.; James H. Kelley, New Haven, Ct.; Harry W. Koenobis, Brooklyn, N. Y.; Dennis F. McAuliffe, New York City, N. Y.; Albert Mehrof, Little Ferry, N. J.; Irwin C. Newhard, Allentown, Pa.; Thomas T. O'Dea, Ghent, N. Y.; Edward A. Paul, Brooklyn, N. Y.; W. L. Sturgis, North Norwich, N. Y.; Isaac White, New York City, N. Y.; Fraley E. Winslow, Whitestown, N. Y.; Louis J. Walford, St. Louis, Mo.; Addison R. Wiley, Windsor, N. J.

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### CHICAGO VETERINARY COLLEGE.

The tenth annual commencement exercises of this institution were held on the 24th of March, in the Grand Opera House. Prof. R. J. Withers, M.R.C.V.S., conferred the degree of Doctor of Veterinary Surgery on the following eighty-three gentlemen: John H. Adamson, Fred. W. Anderman, G. E. Armstrong, Albert Babb, Daniel Barrett, C. E. Baxter, Geo. N. Bennett, Sidney Binger, Jas. A. Bovett, W. A. Bruette, Adolph M. Casper, W. H. Casserly, Wm. G. Clark,

Geo. H. Cobb, Jr., W. H. Cole, C. M. Crane, T. H. Davis, C. G. Deenis, N. H. Downs, Otto G. Draper, John D. Durack, Roderick D. Eaton, Milo C. Eckley, J. H. Eddy, Chas. G. Everton, Geo. F. Faulkner, G. H. Fay, Otis Goodale, Jas. N. Gould, John W. Gould, Wilber T. Gwinn, Robert Gysel, Geo. L. Hagadone, Ed. Herzer, R. A. Higgins, Geo. C. Hill, M. V. Hill, Fred. A. Tistrup, Jas. M. Kaylor, David Ker math, Frank D. Ketchum, Chas. Koehne, Fred. G. La Mont, Fred. J. Leith, A. C. Longnecker, J. H. McAllister, Jas. I. McDonald, E. F. McGraw, C. S. McKenna, Tink S. McNair, G. P. McNay, Chas. H. Merrick, A. E. Metzger, Edwin L. Morgenroth, John H. I. Mullett, Murray C. Newbury, Edmund H. Newton, Joseph J. Oberst, H. A. Pressler, R. G. Rich, T. O. Richmond, F. Rimmer, Thos. Rimmer, A. M. Roek, W. A. Rushworth, F. N. Lawyer, Bismarck Schoedde, John A. Scott, J. W. Sheppard, Osmon W. Stanley, Corvin W. Stevens, Jacob Sutzin, J. A. Thornborrow, R. E. Troxell, Francis J. Ulm, R. D. Van Aken, Chas. A. Wasson, Geo. A. Waterman, E. G. Wheeler, Stephen J. White, N. J. Weisen, F. O. Wright, A. F. Ziegenhorn.\*

#### AMERICAN VETERINARY COLLEGE.

The commencement exercises of this institution took place on the 24th of March, at Chickering Hall, before a large audience of friends of the institution, graduates and alumni of the college.

The hall was handsomely decorated, and the band of the Seventh Regiment enlivened the evening with appropriate musical selections. The platform was occupied by members of the Board of Trustees and Faculty of the College, together with prominent public men of the city, or belonging to the profession, among whom were Hon. D. F. Martin, Jos. Biglin, Dr. J. W. Gadsden, Hon. E. F. Bush, and Prof. F. Osgood, M.D., of Harvard. His Honor, Mayor Gilroy, excused himself on account of previous engagements.

\* We regret that we have not received the addresses of these recent graduates.

After an invocation offered by Rev. T. B. Morse, the degree of *Doctor of Veterinary Surgery* was conferred by Dr. F. D. Weisse, President of the Board of Trustees, upon the fifty-two successful candidates of the graduating class, viz.:

M. McWilliam Alexander Atfield, Brooklyn, N. Y.; Leo Edward Buckley, New York City, N. Y.; Charles Reuben Biederman, Brooklyn, N. Y.; Harry H. Bear, Mount Joy, Pa.; Alexander Joseph Burkholder, Staunton, Va.; Grantly Willoughby Bickell, Haverhill, Mass.; Charles Edward Clayton, Waltham, Mass.; Charles Henry Doepel, Mamaroneck, N. Y.; Frank P. Dorian, Yonkers, N. Y.; William Freeman Davies, Washington, Ohio; John Archie Eadie, New Brighton, N. Y.; William C. Ferguson, New York City, N. Y.; Charles Edgar Garman, Nora Springs, Iowa; Samuel Glas-son, Jr., New York City, N. Y.; John Henry Gardner, Jr.; Norwich, Ct.; Louis Henry Hempelman, St. Louis, Mo.; Gottfried Leonhard Hagenburger, Hettenheim, Germ.; Harry Newell Hall, New Haven, Ct.; Mark Edward Johnson, D.V.M., Red Oak, Iowa; Leander Young Ketcham, M.D., Woodbury, Ct.; Samuel Erdman Lloyd, Govanstown, Md.; Edward Bedell Metcalf, Albany, N. Y.; Albert Francis Mount, Jersey City, N. J.; Charles Henry Martin, Dobbs Ferry, N. Y.; John J. Marshall, New York City, N. Y.; Henry Joseph McClellan, Bryn Mawr, Pa.; William Townsend McCoun, Jr., Oyster Bay, N. Y.; John Peter Nestler, Jersey City, N. J.; Charles Allen Parkerson, New York City, N. Y.; John Vernon Prather, Troy Centre, Pa.; James A. Peed, New Castle, Ind.; William Avin Porter, Dunksburg, Mo.; Rudolph Bertram Plageman, Brooklyn, N. Y.; Joseph Bennett Quinn, Cincinnati, Ohio; Charles Albert Raque, West Nyack, N. Y.; Napoleon Bonaparte Rhodes, Brooksville, Fla.; John Edward Rowe, Jr., Newark, N. J.; Warren Lawrence Rhoads, Westtown, Pa.; Raymond Brook Smith, Montclair, N. J.; Harry Frank Steele, Titusville, Pa.; Thom. Enoch Scripture, Frankford, Ind.; Harry Edward Styer, Medina, Ohio; Charles Schroeder, Brooklyn, N. Y.; William Frank Stranghan, Jewett, N. Y.; Shirley Bruce Staples, Alexandria, La.; Robert Smith Todd, Waterbury, Ct.;

Howard Stanton Usher, Hollis, Me.; Ernest Lewis Volgenau, New York City, N. Y.; Charles Lucian Van Schaick, Brooklyn, N. Y.; Samuel Adam Wright, Long Island City, N. Y.; Richard Milton Weightman, Utica, N. Y.; Frank Potts Williamson, Raleigh, N. C.

The following prizes were then delivered by Professor Doremus:

To Dr. Louis Henry Hempelman, the gold medal of the Board of Trustees, for the best general examination.

Dr. Samuel Adam Wright received a set of books from the Alumni Association for second best general examination.

Dr. Samuel Erdman Lloyd received the gold medal of the Faculty, for the best practical examination, as recommended by the committee appointed for that purpose, consisting of Dr. G. Berns, of Brooklyn, and Thomas Giffen and Eugene Burget, of New York.

The anatomical prize of the senior class, offered by the Professor of anatomy, consisting of a set of instruments, for the best anatomical preparations, was gained by Dr. G. L. Hagenburger.

The junior anatomical prize for the best examination was given to Mr. W. Siegmund, of that class.

The prize offered by the President of the College Association, for the best defended paper presented before that body at one of the meetings, was awarded to Dr. E. L. Volgenau of the graduating class.

The valedictory address was delivered by Dr. W L. Rhoads, and proved to be one of the most interesting ever delivered on such an occasion.

Hon. Judge C. P. Hawes followed, with some remarks of a very interesting character, embodying some most excellent counsel to the graduates and other students.\*

The ceremonies closed with the benediction pronounced by Rev. T. B. Morse, and the company dispersed to their homes to joyful strains from the band, greatly gratified by the enjoyment of a happy and profitable evening.

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\* Will be published in our next issue.

## BIBLIOGRAPHY.

**MANUAL OF OPERATIVE VETERINARY SURGERY.** By A. LIAUTARD, M.D., V.M. Sabiston & Murray, Publishers, New York.

Under the foregoing title Prof. Liautard, Principal of the American Veterinary College, has rendered an unusually valuable service to English-speaking veterinarians by contributing a volume which, from the important field it covers, the author's intimate practical knowledge of the subject under consideration, which is clearly impressed on every page; his equally evident familiarity with the experience and deductions of leading veterinarians throughout the world; the ample illustrations, which often serve far better than words; the ease of style, clearness of expression, and convenience of arrangement, will be cheerfully accorded a high and enduring place among standard English veterinary writings, and should win a place in the library of progressive veterinarians.

Professor Liautard is already well known as a writer on veterinary science through his less pretentious but admittedly valuable volumes: "Vade Mecum of Equine Anatomy," "How to tell the Age of Domestic Animals," "Animal Castration" and "Lameness of Horses," and as translator of Bouley on "Hydrophobia" and Zundel on "Diseases of the Foot."

The author very appropriately dedicates the volume to Dr. A. Chauveau, the illustrious anatomist and scientist, who has done so much for veterinary science in general, and has through his "Anatomy of Domestic Animals" contributed especially to that department of veterinary learning which directly forms the essential foundation for scientific operative surgery. The field covered is a wide and important one, hitherto unoccupied in English veterinary literature, although some of Prof. Liautard's above mentioned writings have to a degree touched upon a part of the present work, and Dr. Fleming published as early as 1884 his first part of "Operative Veterinary Surgery," which remains unfinished.

The work consists of 786 compactly written pages, the arrangement of the subject matter is in every way convenient

and natural, the language and style above criticism, and the illustrations, of which there are about six hundred, are well executed and admirably designed to elucidate the text and render the writer's meaning clear.

The initial chapter, devoted to the various modes of restraint, is exhaustive and replete with valuable suggestions. The various methods of restraining animals by distracting the attention of the patient by means of pain from the operation in progress or contemplation; the confining and controlling of the animal's movements by mechanical means, included in side-lines, casting apparatus, stocks and operating tables; the removal of the sense of pain by general or local anæsthesia, are all considered in detail from economic and humanitarian standpoints, and the advantages, disadvantages and dangers of each method carefully considered; an especially timely plea is made for the more general use of local anæsthetics for both surgical and diagnostic purposes. The various accidents following the use of anæsthetics, and the different forms of restraint are carefully brought out, and means for their prevention suggested. Then follows a brief and suggestive chapter on surgical diagnosis, followed by a more extensive one on therapeutics in which the means for applying and retaining dressings, etc., on various parts of the body are ably discussed.

The following chapter devoted to elementary operations; operations on the skin and cellular tissue; on bones and on muscles and their annexes are all that could be desired, while the chapter devoted to operations upon the digestive system is exhaustive, detailing the great variety of operations upon this apparatus in an excellent manner.

The chapter devoted to operations on the respiratory apparatus is chiefly interesting on account of the subject of arytenectomy, a procedure which has led to much comment during the past few years from the very contradictory reports of results, a subject which the author considers fully and fairly.

The chapter devoted to neurotomy is one of special worth, giving very minute and excellent details for this operation, and recording very favorable results.

Other chapters are devoted to operations on the circulatory system, the genito-urinary apparatus, the foot, the eye and ear, the withers and poll, etc., all of which are full of interest, and in keeping with the great importance of the subject as a whole.

The work is destined to meet with the generous reception it so well deserves at the hands of the English-speaking veterinary profession, and will doubtless specially appeal to the pride of American veterinarians, as it is by far the most extensive, useful and scientific contribution yet offered by an American veterinarian, and we trust its success will be sufficiently great to stimulate further endeavors of a like character.—W. L. W.

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### SOCIETY MEETINGS.

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#### INDIANA ASSOCIATION OF VETERINARY GRADUATES.

The annual meeting of the Indiana Veterinary Association was held at the New Clinton House, Kokomo, Ind., January 10th and 11th, 1893.

The meeting was convened at 1.30 P.M., the President, W. L. Williams in the chair. There were present, Drs. F. A. Balser, C. F. Bell, G. H. Roberts, M. J. Schaffer, W. L. Williams, J. H. Honan, J. C. Rodger, A. J. Thompson, T. B. Pote, A. B. Carter, O. L. Boor, P. Justice, J. W. Watson and C. M. Stull.

The minutes of the previous meeting read and approved. The Treasurer, Dr. Galbraith, being absent on account of sickness, presented his report through the Secretary, showing the Association to be in an improved financial condition.

The following names were proposed for membership: J. W. Reed, R. L. Chamberlain, Fred. Braggington, E. T. L. York, J. D. Sturm, T. B. Sturm, T. B. Pote, A. B. Carter, O. L. Boor, P. Justice, J. W. Watson, C. M. Stull, S. Fitch and A. G. Whitestine.

On motion of Dr. Roberts, the Secretary was instructed to cast the ballot of the Association in favor of all the applicants.

A communication was presented from Dr. E. F. Diggs, tendering his resignation as a member on account of engaging in the preparation and sale of secret "specific" medicines, which upon motion of Dr. Roberts, was accepted, and the Secretary was instructed to notify Dr. Diggs accordingly.

On motion of Drs. Bell and Roberts, a committee of three, consisting of the President, Vice-President and Secretary, was created to revise the constitution and by-laws, with power to print the same at the expense of the Association, and have it ready for presentation to the Association at its next meeting.

Dr. C. F. Bell then presented his paper on "Amputation of the Penis," in which he detailed several cases of more than ordinary interest occurring in his own practice. The paper was followed by an interesting discussion participated in by almost all members present, during the course of which many instructive cases of this operation were related, and numerous useful suggestions brought out, chief of which were that direct amputation, through urethra and corpus cavernosum was likely to be followed by urethral stricture, and that this was preventable by dissecting out the urethra and allowing it to project beyond the corpus cavernosum, etc.

The Association then adjourned to re-convene at the Elk's Hall at 7.30 P.M., to which the general public had been invited, but owing to the inclement weather the audience was small though appreciative.

The Vice-President, Dr. Bell, presided, and the President delivered his annual address, entitled, "The Relation of the Veterinarian to the Public," in which the speaker showed that these relations had become so important that the veterinarian constituted an essential factor in the progress, prosperity and health of the people.

This was followed by a well-prepared paper by Dr. A. J. Thompson, entitled "Homeopathy in Relation to Veterinary Science," after which the meeting adjourned to the Clinton House, and fully discussed it.

The President then called the attention of the Association to the approaching International Veterinary Congress to be

held at Chicago, September, 1893, and urged that the veterinarians of Indiana should fully waken to their opportunities and responsibilities in this, which will doubtless prove the most important veterinary meeting so far held in America. He detailed the many courtesies extended to visiting veterinarians at Boston last September, and suggested that equally good entertainment should be provided at Chicago for all attending veterinarians.

On motion of Dr. Thompson, the President appointed Drs. Boor, Stull and Balser a committee to confer and act with like committees already appointed by the State Associations of Illinois and Iowa, for making arrangements and providing entertainment for the International meeting.

The Association then proceeded to the election of offices for the ensuing year, with the following result: President, W. L. Williams; First Vice-President, Dr. C. F. Bell; second Vice-President, Dr. C. W. Stull; third Vice-President, Dr. G. W. Roberts; Secretary, J. E. Cloud; Treasurer, F. A. Balser; Trustees, A. J. Thompson, T. B. Pote, O. L. Boor, M. Y. Schaffer, J. W. Watson.

On motion of Dr. Bell, it was decided to hold the next meeting of the Association at Newcastle in July.

The Association then adjourned to meet at 8 A. M., on the 11th, when, through the courtesy of Dr. Bell, the members visited the Kokomo Plate Glass Works, one of the largest concerns of the kind extant, where the members had the pleasure of observing hurriedly the various departments in active work. The members then proceeded to Dr. Bell's infirmary, where Dr. Balser demonstrated in a neat manner the method of castrating cryptorchid horses, after which the meeting was called to order at the New Clinton House, and an interesting paper presented by Dr. Honan, on "Inversion of the Uterus," which was followed by a spirited discussion, engaged in generally by members present, the discussion turning largely upon the question of the necessity of retaining-sutures, truss or pessary after replacement, the general opinion seeming to be that they were at least useless in most cases, especially if care be taken to straighten out the invaginations of the

cornea and properly replace them, and then withdraw the same slowly and cautiously after the lapse of several minutes after replacement.

A paper by Dr. W. B. Wallace was then presented by Dr. Bell, entitled, "A Fracture of the Os Pedis," in which a rather remarkable case was reported, which, according to the views of most members present, was due to osteoporosis.

On motion of Dr. Stull, it was determined to secure necessary funds for assisting in entertainment of the International Veterinary Congress by subscription.

Hearty good will prevailed throughout the meeting; the papers submitted were very good, the discussions were unusually spirited and instructive, the attendance was larger than at any previous meeting, and the additions to membership also exceeded in number and value those of any prior meeting, so that on the whole those present felt greatly encouraged, and considered this the best meeting in the history of the Indiana Veterinary Association.

The meeting was then adjourned, to convene at New-castle early in July.

J. E. CLOUD, *Secretary*.

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#### WESTERN IOWA VETERINARY MEDICAL ASSOCIATION.

The sixth meeting of the Western Iowa Veterinary Medical Association met at the office of Dr. J. J. Miller in Sioux City, on Friday evening, January 20, and was called to order by Vice-President G. C. Williams. Upon roll-call, the following members were present: G. A. Johnson, G. C. Williams, J. J. Miller, L. U. Shipley, and the following gentlemen as visitors, Jas. M. Smith, of Cherokee; R. R. Hammond, of Lemare; D. C. McCapes, of Vermillion, S. D.; and J. F. Smith and John Aerth of Sioux City.

The minutes of the previous meeting were read by the Secretary and approved. Under the order of communications and correspondence, letters were read from President J. G. Gibson, expressing regrets of absence, and communications from the Secretary of the Northeastern Iowa Association.

Upon motion of Dr. Johnson, seconded by Dr. Miller, the rules were suspended and the above named visiting doctors were enrolled members of the Association.

Under the order of new business the subject of veterinary legislation was discussed by all present. The first paper was the President's address, which was read by the Secretary, and was well received, and contained much in the way of professional ethics, and very forcibly expressed the sense of the Association upon legislation; this was followed by an interesting discussion, at the close of which it was moved by Dr. Johnson, and seconded by Dr. J. M. Smith, that the Chair appoint a committee of three to be known as the Legislative Committee. Accordingly the Chair appointed Drs. G. A. Johnson, Jas. M. Smith and R. R. Hammond.

Dr. G. A. Johnson then presented a paper on the use of a stomach tube in acute indigestion, which was discussed by all present. Dr. McCapes then presented a paper on "Bottom Disease," which was very interesting and was fully discussed. The followed the election of officers, which resulted as follows: For President Dr. G. A. Johnson, for Vice-President, Dr. J. J. Miller, for Secretary and Treasurer, L. U. Shipley. The newly elected President then took the chair, after which the meeting adjourned to meet at the call of the Secretary.

L. U. SHIPLEY, *Secretary*.

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#### THE MARYLAND STATE VETERINARY SOCIETY.

The annual meeting of this Society was held at the Hotel Studio on Monday evening, February 20th, 1893. The following members were present: Drs. T. F. Barron, Wm. Dougherty, A. W. Clement, Daniel R. Hoffman, George C. Faville and W. H. Martenet. Dr. Martenet, President, in the chair, and Dr. Faville being Secretary pro tem.

General routine business was transacted, and in addition it was resolved to purchase an ambulance for the recumbent position for addition to the one for standing position already owned by the Society. Election of officers for the following year resulted as follows: President, Dr. Wm. Dougherty;

Vice-President, Dr. G. C. Faville ; Secretary and Treasurer, Dr. W. H. Martenet.

An interesting paper was then read by Dr. Faville on "So-called Spinal Meningitis." The annual dinner followed in the dining-room of this cosy hôtel, and was heartily enjoyed.

GEORGE C. FAVILLE, D.V.M.,

*Secretary pro tem.*

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PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The notice of the annual meeting of this Association, which took place on the 7th of March, reached our office too late for publication in our March number. We regret it so much more, as the meeting must have been one of unusual interest. We hope that, more fortunate than in the past, we may be honored with a report of the meeting to present to our readers. The work done by the Pennsylvania Association is too important for not receiving the largest publicity.

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CONNECTICUT VETERINARY MEDICAL ASSOCIATION.

The regular quarterly meeting of the Connecticut Veterinary Medical Association was held in the office of Dr. E. C. Ross, New Haven, on Tuesday evening, March 7th, at 8 P.M.

Dr. Beckley, President, called the meeting to order. Members present were : Drs. Ross, Bland, Whitney, Smith, Beckley, Storrs, Towne, and the Secretary ; also Dr. Potter, who through Dr. Ross, made application for membership. His name was referred to the Board of Censors to be acted upon at the next meeting.

There were interesting notes on every day practice given by all present, and a number of specimens were shown, among which one by Dr. Beckley exhibiting a large white kidney as described by Williams.

After a pleasant evening spent in discussing the subjects it was moved that the meeting adjourn, and that the next one should be held in the office of Dr. Bland, of Waterbury.

H. E. BATES, D.V.S., *Sec.*

## MICHIGAN STATE VETERINARY MEDICAL ASSOCIATION.

The eleventh annual meeting of the Michigan State Veterinary Medical Association was held at the Wildermuth House, Owasso, Michigan, February 7th, 1893.

The meeting was called to order at 2 P.M. by the President, Dr. J. W. Ferguson, of Bay City.

Secretary Dr. Wm. Jopling, of Owasso, called the roll, the following members answering to the call: Dr. J. Hawkins, Detroit; Dr. J. A. Dell, Ann Arbor; Dr. S. Brenton, Detroit; Prof. E. A. A. Grange, Lansing; Dr. J. W. Ferguson, Bay City; Dr. C. W. Stowe, Saginaw; Dr. W. J. Byers, Charlotte; Dr. J. C. Whitney, Hillsdale; Dr. Wm. Jopling, Owasso; Dr. Geo. C. Moody, Mason; Dr. W. W. Thorburn, Lansing; Dr. Geo. W. Dunphy, Quincy; Dr. J. W. Brodie, Pontiac; Dr. F. G. Gilbank, Detroit; Dr. T. G. Duff, St. Louis; Dr. Jas. Ritchie, Alpena.

The minutes of previous meeting were read and approved.

Dr. J. A. Dell, of Ann Arbor, was appointed to assist the Secretary at this meeting.

The President delivered his annual address, which was replete with encouraging remarks and good advice.

Moved by Prof. Grange, and supported by Dr. Jopling, that Dr. J. Hawkins take the chair in order that we may take action on the President's address. Carried, and Dr. Hawkins took the chair.

Moved by Prof. Grange, and supported by Dr. Dunphy, that the President's address be attached to the minutes of this meeting, with commendatory remarks. Carried.

The following applications for membership were presented: Dr. J. F. Smith, Ont. Vet. College, '83, Adrian, Mich.; Dr. Wm. L. Drinkwater, Ont. Vet. College, '86, Mt. Clemens, Mich.; Dr. R. E. Reycraft, Ont. Vet. College, '87, Detroit, Mich.; Dr. W. A. Mann, Ont. Vet. College, '90, Clio, Mich.; Dr. L. D. Le Gear, Ont. Vet. College, '92, Imlay City, Mich.; Dr. Wm. Routledge, Ont. Vet. College, '90, Sebewaing, Mich.; Dr. W. A. Giffen, Ont. Vet. College, '87, Detroit, Mich.; Dr. S. W. Van Sickle, Ont. Vet. College, '88,

Holly, Mich.; Dr. W. M. Burdick, Ont. Vet. College, '91, Chesaning, Mich.; Dr. H. Rupright, Chicago Vet. College, '90, Sturgis, Mich.; Dr. W. A. McLean, Ont. Vet. College, '88, Greenville, Mich.; Dr. J. W. Waters, Ont. Vet. College, '87, Jackson, Mich.

The Secretary reported that all the applicants were properly vouched for, except Dr. J. W. Waters, of Jackson.

Moved by Dr. J. Hawkins, and supported by Prof. Grange, that the applications be voted on collectively, excepting, Dr. J. W. Waters. Motion carried.

Moved by Dr. Hawkins, and supported by Dr. Jopling, that the Secretary cast a unanimous ballot. Carried.

The Secretary thereupon deposited said ballot, and the applicants were declared duly elected.

Moved by Prof. Grange, and supported by Dr. Hawkins, that the Secretary notify the gentlemen balloted for, that they can become members by paying the admission fee. Carried.

Moved by Dr. Dunphy, and supported by Dr. Hawkins, that the Secretary notify Dr. J. W. Waters, of Jackson, that action on his application was deferred until properly vouched for. Carried.

Drs. J. F. Smith ; W. L. Drinkwater ; R. E. Reycraft ; W. A. Mann ; L. D. Le Gear and Wm. Routledge being present and waiting in an adjoining room, were called in and fulfilled the requirements of membership by paying the fee, after which they were introduced by the President.

The Secretary read several letters from members of the profession, expressing regret at not being able to be present.

Dr. C. W. Stowe, conveyed regrets from Dr. D. G. Sutherland, of Saginaw, that sickness prevents his attendance.

Dr. G. W. Dunphy called the attention of the Association to the death of Dr. E. W. Bartram, of Paw Paw, Mich, ex-Secretary of the Association.

The President called on Dr. Jopling, who presented articles in memoriam on the death of Dr. Bartram, and also resolutions of condolence and respect.

Moved by Prof. Grange, and supported by Dr. Hawkins, that the resolutions presented by Dr. Jopling, be signed by

the President and Secretary, that they be spread on the records, and that a copy be sent the bereaved family, and that the Secretary cause it to be printed in the Paw Paw newspaper. Carried.

Dr. Hawkins, of the committee on by-laws presented a proposed revision, containing several amendments found necessary to have them conform to the articles of incorporation. He also presented a code of ethics similar to that adopted by the United States Veterinary Medical Association.

Moved by Prof. Grange, and supported by Dr. Brenton, that the report be accepted and the committee discharged, and that the Secretary have one hundred copies printed and distributed among the members. Carried.

Dr. Hawkins, chairman of Committee on Legislation, made a report which was accepted, and the committee discharged.

Dr. Jopling, chairman of Committee on Programme, made a report, which was accepted and the committee discharged.

Moved by Dr. Hawkins, and supported by Dr. Dunphy, that the President appoint a committee to draft a bill to present to the Legislature for the regulation of the practice of veterinary medicine and surgery in Michigan, said committee to report at the evening session. Carried.

Drs. Thorburn, Hawkins and Dunphy were appointed as such committee.

The Secretary submitted a report of his work as Secretary for the past year.

Moved by Dr. Hawkins, and supported by Dr. Drinkwater, that the report of the Secretary be accepted and placed on file. Carried.

The Treasurer's report showed that receipts were \$109.95, and expenditures \$25.48, leaving a balance of \$84.47.

The report was referred to the auditing committee, who reported that they found it correct, and on motion the report of the auditing committee was accepted and ordered filed.

Moved by Prof. Grange, and supported by Dr. Brenton, that the Secretary be allowed twenty-five dollars for his services for the ensuing year. Carried.

The meeting then adjourned to meet again at 7:30 P.M.

The evening session was called to order at 8 o'clock, the President in the chair.

The Committee on Legislation made their report.

Moved by Dr. Smith, and supported by Prof. Grange, that the report be accepted. Carried.

Considerable discussion arose as to the adoption of the bill as drafted, after which it was moved by Dr. Dell, and supported by Prof. Grange that it be taken up by sections. Carried.

After the necessary amendments were made, it was moved by Dr. Hawkins, and supported by Dr. Dell, that the bill be adopted as a whole as amended. Carried.

Drs. W. W. Thorburn, E. A. A. Grange, J. Hawkins and G. W. Dunphy were appointed a committee to attend to and endeavor to secure the passage of the bill by the Legislature. The committee were authorized to draw on the funds of the Association not to exceed one hundred dollars.

The election of officers resulted as follows: President, Dr. Geo. W. Dunphy, Quincy; 1st Vice-President, Dr. W. W. Thorburn, Lansing; 2d Vice-President, Dr. J. C. Whitney, Hillsdale; 3d Vice-President, Dr. R. E. Reycraft, Detroit; Secretary and Treasurer, Dr. Wm. Jopling, Owasso.

Board of Directors: Drs. J. Hawkins, Detroit; S. Brenton, Detroit; J. W. Ferguson, Bay City; J. F. Smith, Adrian; J. W. Brodie, Pontiac; and C. W. Stowe, Saginaw.

Dr. G. W. Dunphy took the chair, and thanked the Association for the honor it had conferred upon him.

Prof. E. A. A. Grange, under the title of "Recent Therapeutic Experiments in Treating Ringbones and Spavins," gave a short history of some experiments he had made.

With the hypothesis that exostoses were deficient in the normal constituents of bone, and that this deficiency accounted somewhat for the difficulty found in treating successfully many cases of bone disease, he had administered the salts of bone in the proportion in which they occur in bone, and with very satisfactory results, and although it could not be claimed a specific, the success attained so far warranted a continuance of this line of treatment.

Dr. J. A. Dell, of Ann Harbor, read a very instructive paper on "Ompholabis."

Dr. W. W. Thorburn, of Lansing, a paper on "Electricity and its Use in Veterinary Practice."

An animated discussion followed the reading of each paper.

Moved by Dr. Hawkins, and supported by Dr. Ferguson, that a special meeting be held some time during the summer, at the discretion of the President, as occasion may require. Carried.

Moved by Dr. Hawkins, and supported by Dr. Reycraft, that a vote of thanks be tendered host and hostess. Carried.

A vote of thanks was given the retiring President, for his untiring efforts in behalf of the Association.

A vote of thanks was also given the Secretary, for the faithful manner in which he had conducted his duties.

The meeting adjourned at 2 A.M. to meet in Lansing next year.

WM. JOPLING, *Secretary*.

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#### ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual Meeting of the Illinois State Veterinary Medical Association, was held at Peoria, Ill., February 17th.

Meeting called to order by President S. S. Baker. The following members responded to their names: Drs. A. G. Alverson, S. S. Baker, G. Z. Barnes, G. W. Browning, Geo. Ditewig, C. E. Hollingsworth, C. D. Hartman, J. T. Nattress, J. W. Parkinson, John Scott, N. I. Stringer, H. Thompson, M. Wilson.

Minutes of the previous meeting were read and approved.

Committee on Legislation reported through its chairman, Dr. Baker, on the work done in drafting a bill to be presented to the legislature, and the sending of letters and petitions to representative live stock men in this and surrounding states and receiving their indorsement to such bill.

Committee on form of certifitate of membership, was given power to act in selecting and having printed an appropriate certificate.

The following gentlemen's names were proposed for membership: Dr. W. S. Wingate, Ch. '92, Farmington, Ill.; Dr. R. P. Steddom, Ont. '86, Galesburg, Ill.

On motion of Dr. Stringer, seconded by Dr. Hollingsworth, the rules were suspended for the time being, and the above named gentlemen elected by acclamation.

It was moved by Dr. Scott, seconded by Dr. Barnes, that the Secretary be instructed to notify all members in arrears, asking for their dues. Motion carried.

#### AFTERNOON SESSION.

Meeting was called to order at 2:00 P.M.

Dr. W. W. Giles, Ch. '92, Eureka, Ill., was proposed for membership and elected by acclamation.

Dr. Ditewig then read his paper on "Remarkable Cases in Practice." Discussion closed on motion.

Dr. Stringer then read his paper on "Strongylus Tetra-canthus." Discussion was closed on motion.

Dr. Thompson then presented a paper on "Case Reports," discussion of which was closed on motion.

Dr. Scott was then called on for his paper on "Castration," and was followed by Dr. S. S. Baker on "Typhoid Fever in the Horse."

Meeting adjourned until after supper.

Members called to order at 7:30 P.M.

After some further discussion of Dr. Baker's paper on "Typhoid Fever in the Horse," a vote of thanks to the essayists was proposed by Dr. McDonnell, and responded to by Drs. Baker and Stringer.

A vote of thanks was also presented the proprietors of the hotel for their accommodations, and the meeting adjourned to come together at the call of the committee in Chicago next November. MATTHEW WILSON, M.R.C.V.S. *Secretary*.

MENDOTA, Ill.

### NOTICE.

*To Members United States Veterinary Medical Association :*

I have the pleasure of announcing to the members of the Association and the profession in general, at home and abroad, that there will be two valuable contributions offered to our Association at its International Meeting, which should attract the attention and interest of the entire profession of the world. They are the result of several years' investigation on the subject of "Swine-Plague" and "Hog-Cholera," and "Contagious Pleuro-Pneumonia."

The first paper will be offered jointly by Dr. A. W. Clement and Dr. Wm. Welch. The second paper will be offered by Dr. A. W. Clement, and it will be accompanied by the most exhaustive collection of pathological specimens which have ever been gathered together in the world.

W. HORACE HOSKINS, *Sec.*

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### OBITUARY.

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Dr. T. W. Apeldorn, graduate of the American Veterinary College, died at his home in Philadelphia, October 16th, 1892, of acute tuberculosis.

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### NEW MEDICAL AGENTS.

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**COLCHICINE AND METHYL SALICYLATE** in the treatment of rheumatoid affections. This is a new combination, which, after giving excellent results in human practice, has since been tried with animals. The drugs are administered in capsule, and produce no bad gastric effects. They are reported as giving relief in a few hours, especially if combined with alkaline treatment.

**KRESIN.**—A new disinfectant and antiseptic.—This new preparation is reported as specially adapted for use in barns and stables, the solutions being readily and accurately made

by ordinary stablemen. It requires for the development of its valuable disinfectant properties some special conditions of cleanliness of the floor, walls, etc. A tablespoonful of kresin to a quart or two of water is the strength ordinarily used. Other indications, pertaining to its antiseptic qualities, are also presented in the treatment of foul ulcers or wounds of an ugly nature. When used medicinally, the solution is made with warm or hot water. It is never used undiluted.

A pamphlet in our possession contains the following statement :

By far the strongest bactericide substances among the innumerable combinations containing carbon are the cresols, which belong to the class of the phenols. It has been shown by the investigations of Jaeger and Ohlmuller, of the Imperial Health Board in Berlin, and of Frankel, of the Berlin Hygienic Institute, that all the known bodies belonging to the aromatic series are superseded in regard to power of disinfection by solutions of the cresols in acid. All the successes heretofore observed of the power of acting on the spores of the anthrax-bacillus have been eclipsed by these acid solutions of the cresols.

Commercial crude carbolic acid, so-called, consists in greater part of these cresols, and therefore it would certainly be one of the best disinfectants, if it was as soluble in water as pure carbolic acid. But both crude carbolic acid and the cresols are almost insoluble in water, and according to Laplace are almost worthless as disinfectants if used in this form.

In conformity with the investigations of the excellent authorities above referred to, the Chemische Fabrik auf Actien, formerly E. Schering, has produced a new article called kresin. This liquid contains twenty-five per cent. of cresol, the strong antiseptic and germicide, and, as a means for dissolving it, an equal amount of sodium cresoxylacetate is added, a substance which has the same properties.

Kresin is a brown liquid, smelling like cresol, entirely free from carbolic acid; it forms a clear neutral solution when mixed with water.

It has a number of advantages for use in surgery, etc., in comparison with the other antiseptic remedies, viz.:

As against *carbolic acid*:

*Kresin* is of more energetic and reliable action, less poisonous and less caustic.

In testing kresin pharmacologically it was found that half-a drachm (2.0 grammes) of kresin given internally to a rabbit did not interfere at all with the health of the animal.

From the foregoing it is evident that kresin is not only an ideal disinfectant and antiseptic for surgical use, as one-half to one per cent. solutions are sufficiently strong for antiseptic purposes, but even weaker solutions are able to neutralize disease-germs, and those products of decomposition which afford a ready nidus to germs in decaying animal and vegetable matter.

Kresin is very little poisonous, and it may therefore be employed, when sufficiently diluted, as a gargle, for inhalations, and principally in the treatment of wounds.

CHLORO-PHENIQUE IN DIPHTHERIA.—Dr. W. N. Bahrenberg, No. 919 Wash Street, St. Louis, Diseases of the Throat and Nose, in a letter dated October 31, 1892, says:

"In twelve cases of scarlatina accompanied by diphtheritic sore throat, treated by me recently, I used a spray composed of equal parts of Chloro-Phenique and water as a topical application. It caused an immediate cessation of fetor and gave great relief to the patient. Convalescence was rapid in every case. I have also used Chloro-Phenique as a gargle and mouth-wash, and as a spray in otorrhœa and ozœna, with uniformly good results.

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#### FOR SALE.

Veterinary practice (established four years) in city of forty-five thousand (45,000) in farming country. Only one other graduate within one hundred and ten miles (110). Frequent calls to neighboring towns. Cool summers. Good climate. Will be sold cheap for cash. For price, reason for leaving, etc., apply,

T F

DR. POE, V. S.,

Knoxville, Tennessee.